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- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PYRAZOLE COMPOUNDS

$$Ar$$
 $R_1$ 
 $R_2$ 
 $R_2$ 
(IB)

(57) Abstract: Compounds of formula (IA) or (IB) or a salt, N-oxide, hydrate or solvate thereof are inhibitors of HSP90, and are of value in the treatment of diseases responsive to HSP90 inhibition such as cancers. In the formulae, Ar is an aryl, aryl(C1-C6 alkyl), aryl(C1-C6 alkyl), heteroaryl, heteroarylaryl(C1-C6 alkyl), or heteroarylaryl(C1-C6 alkyl) group, any of which being optionally substituted in the aryl or heteroaryl part thereof; R1, is hydrogen or optionally substituted C1-C6 alkyl; R2 is hydrogen, optionally substituted cycloalkyl, cycloalkenyl, C1-C6 alkyl, C1-C6 alkenyl, or C1-C6 alkynyl; or a carboxyl, carboxamide or carboxyl ester group; and ring A is a non aromatic carbocyclic or heterocyclic ring wherein (i) a ring carbon is optionally substituted, and/or (ii) a ring nitrogen is optionally substituted by a group of formula -(Alk¹)p (Cyc)n-(Alk³)m-(Z)r (Alk²)s Q where Alk¹, Alk² and Alk³ are optionally substituted C1-C3 alkyl, Cyc is an optionally substituted carbocyclic or heterocyclic radical; m, n, p, r and s are independently 0 or 1, Z is -0-, -S-, -(C=O)-, -S02-, -C(=O)O-, -OC(=O)-, -NW-, -C(=O)NRA-, -NR^C(=O)-, -SO<sub>2</sub>NRA-, or -NR^SO<sub>2</sub>- wherein R<sup>A</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl, and Q is hydrogen or an optionally substituted carbocyclic or heterocyclic radical.



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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C07D231/38 C07D405/12 C07D401/12 CO7D413/12 C07D403/12 C07D417/12 C07D409/12 C07D403/04 C07D405/10 CO7D401/04 //(C07D405/12,307:00,231:00),(C07D401/12,231:00, A61K31/415 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 CO7D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, CHEM ABS Data

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	DATABASE CHEMCATS 'Online! AMERICAN CHEMICAL SOCIETY; retrieved from STN XP002275488 RNs 512817-94-6, 512812-41-8, 512817-19-5, 512817-26-4, 494867-78-6	1,2
Х,Р	WO 03 062206 A (FOSTER RICHARD ;SMITH JULIAN (GB); ARENA PHARMACEUTICALS INC (US);) 31 July 2003 (2003-07-31) examples 87-89,95	1,2,8,23
X	WO 01 79187 A (SHELTON EMMA JANE ;SPENCER JEFFREY R (US); CAI SUI XIONG (US); CYT) 25 October 2001 (2001-10-25) page 74; example 5	1,2,8,23

X Further documents are listed in the continuation of box C.	Y Patent family members are listed in annex.
Special categories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' earlier document but published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.  "8." document member of the same patent family
Date of the actual completion of the international search  30 March 2004	Date of mailing of the international search report  16/04/2004
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL – 2280 HV Rijswijk  Tel. (+31–70) 340–2040, Tx. 31 651 epo nl,  Fax. (+31–70) 340–3016	Authorized officer Frelon, D



# INTERNATIONAL SEARCH REPORT

Int. onal Application No PCT/GB 03/05501

			PCT/GB 03/05501
A. CLASSI IPC 7	FICATION OF SUBJECT MATTER 213:00)		
According to	o International Patent Classification (IPC) or to both national classific	cation and IPC	
	SEARCHED		
Minimum do	ocumentation searched (classification system followed by classification sy	tion symbols)	
Documental	ion searched other than minimum documentation to the extent that	cuch documents am instud	and to the Settle
	ata base consulted during the International search (name of data b	ase and, where practical, s	earch terms used)
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the re	elevant passages	Relevant to dalm No.
X	WO 98 52940 A (ANANTANARAYAN ASH JOYCE ZUOWU (US); SELNESS SHAUN 26 November 1998 (1998-11-26) page 756, line 226 - line 227; c	RAJ (US)	1,2,8,23
x	WO 97 01551 A (FUJISAWA PHARMACE); AKAHANE ATSUSHI (JP); KURODA SA 16 January 1997 (1997-01-16) examples 26,44	UTICAL CO TORU (J)	1,2,8,23
X	WO 96 03385 A (SEARLE & CO ; LEE (US); PENNING THOMAS D (US); KRAI STEVEN) 8 February 1996 (1996-02-page 24, lines 25-27, page 26, lines 35-36, page 55, lines 14-15 and 2	MER -08) ines	1,2,8,23
	<del></del>	-/	
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<b>-</b>	er documents are listed in the continuation of box C.	X Patent family mer	nbers are listed in annex.
*A* documen	egories of cited documents :  If defining the general state of the art which is not	or priority date and no	ed after the International filing date at in conflict with the application but
Conside	red to be of particular relevance ocument but published on or after the international	(HAGHTICH)	e principle or theory underlying the
anud as	це	Cennot de consideren	relevance; the claimed invention novel or cannot be considered to
which is	at which may throw doubts on priority claim(s) or seited to establish the publication date of another or other special reason (as specified)	"Y" document of particular	tep when the document is taken alone relevance; the claimed invention
*O* documer other m	nt referring to an oral disclosure, use, exhibition or	document is combine	to involve an inventive step when the d with one or more other such docu-
"P" documer	nt published prior to the international filing date but	ments, such combina in the art.  *&" document member of t	tion being obvious to a person skilled
Date of the a	ctual completion of the international search		nternational search report
	March 2004		•
Name and m	alling address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer	
	NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,		
	Fax: (+31-70) 340-3016	Frelon, D	



Inte Mar Application No PCT/GB 03/05501

C (Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PC1/GB 03/05501
Category *	Cliation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	, mad dypropries of district and passages	reigran to cidin No.
X .	DATABASE CHEMCATS 'Online! AMERICAN CHEMICAL SOCIETY; retrieved from STN XP002275489 RNS 494867-81-1, 442643-27-8, 442642-90-2, 430450-02-5, 442643-55-2, 426252-69-9, 426246-04-7, 428478-82-4, 426242-81-1, 426241-82-9, 428480-97-1, 428479-84-9	1,2
X	PATENT ABSTRACTS OF JAPAN vol. 013, no. 061 (C-567), 10 February 1989 (1989-02-10) -& JP 63 253068 A (NIPPON NOHYAKU CO LTD), 20 October 1988 (1988-10-20) page 45, compound 84	1,2,8,23
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; SAUSINS, A. ET AL: "Methods of synthesis of 4-(pyrazoly1)- and 4-(pyridy1)-5-oxo-1,4,5,7- tetrahydrofuro'3,4-b!pyridines" retrieved from STN Database accession no. 124:202067 XP002275490 RNs 154926-86-0, 174314-90-0, 174314-91-1, 174314-93-3, 174314-96-6, 174314-97-7, 174314-98-8 & KHIMIYA GETEROTSIKLICHESKIKH SOEDINENII (1995), (7), 966-72,	1,2,8
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BARALDI, P. G. ET AL: "Synthesis and cardiodepressant activity of dialkyl 1,4-dihydro-2,6-dimethyl-4-(pentatomic-het eroaryl)-3,5- pyridinedicarboxylates. 2" retrieved from STN Database accession no. 120:289435 XP002275491 abstract; RN 154926-86-0 & DRUG DESIGN AND DISCOVERY (1993), 10(4), 319-29,	1,2,8,23



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PCT/GB 03/05501

ant to claim No.
1,2,8
1,2,8,23
1,2,8



Inti Application No PCT/GB 03/05501

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PC1/68 03/05501
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; ALONSO, G. ET AL: "Synthesis of pyrazole C-nucleosides by 1,3-dipolar cycloaddition" retrieved from STN Database accession no. 87:184819 XP002275495 RN 64559-22-4 & ANALES DE QUIMICA (1968-1979) (1976), 72(11-12), 987-90,	1,2,8
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; ARAKAWA, KIICHI ET AL: "Synthesis of 1-(3-phenylpyrazol-4-yl).betaD-ribofuran oside, a C-nucleoside" retrieved from STN Database accession no. 82:73382 XP002275496 RNs 54680-27-2, 54680-28-3, 54680-29-4, 54680-30-7 & CHEMISTRY LETTERS (1974), (11), 1305-8,	1,2,8
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; GARCIA-LOPEZ, M. T. ET AL: "Synthesis of heterocyclic C-glycosyl compounds by 1,3-dipolar cycloaddition of diazomethane to acetylenic-carbohydrate derivatives" retrieved from STN Database accession no. 75:88530 XP002275497 RNs 34020-52-5, 34020-53-6 & JOURNAL OF HETEROCYCLIC CHEMISTRY (1971), 8(3), 525,	1,2,8
	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; TERENT'EV, P. B. ET AL: "Addition of diazomethane to.betaethynylpyridines" retrieved from STN Database accession no. 73:45406 XP002275498 RN 27509-32-6 & KHIMIYA GETEROTSIKLICHESKIKH SOEDINENII (1970), (4), 498-502,	1,2,8

Form PCT/ISA/210 (continuation of second sheet) (January 2004)





Int lonal Application No PCT/GB 03/05501

		PCT/GB 03/05501		
	nation) DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BORRACHERO-MOYA, PASTORA ET AL: "Synthesis of 4-(4,6-di-O-benzyl-2,3-dideoxybetaD-er ythro-hex-2- enopyranosyl)pyrazoles from 3,4,6-tri-O-acetyl-D-glucal" retrieved from STN Database accession no. 129:189545 XP002275499 RNs 211674-08-7, 211674-06-5, 211674-15-6 & CARBOHYDRATE RESEARCH (1998), 308(1-2), 181-190,	1,2,8		
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BARALDI, P. G. ET AL: "Synthesis and cardiodepressant activity of dialkyl 1,4-dihydro-2,6-dimethyl-4-(pentatomic-het eroaryl)-3,5- pyridinedicarboxylates. 2" retrieved from STN Database accession no. 120:289435 XP002275500 RN 154926-87-1 & DRUG DESIGN AND DISCOVERY (1993), 10(4), 319-29,	1,2,8,23		
	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; GHOSH, CHANDRA KANTA ET AL: "Benzopyrans. 31. Reaction of 1,1-diacety!-2-(6-methy!-4-oxo-4H-1- benzopyran-3-y!)ethylene with phenyldiazomethane" retrieved from STN Database accession no. 119:270955 XP002275501 RN 151466-29-4 & TETRAHEDRON (1993), 49(19), 4135-40,	1,2,8		

Form PCT/ISA/210 (continuation of second sheet) (January 2004)



## INTERNATIONAL SEARCH REPORT

Into anal Application No PCT/GB 03/05501

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.				
χ	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US;	1,2,8				
	MORENO-MANAS, MARCIAL ET AL: "Hindered rotation around C(sp2)-C(sp3) bonds in the enol forms					
	of.alpha(9-fluorenyl)betadiketones and in 3,5-disubstituted 4-(9-fluorenyl)pyrazoles. A proton NMR study"					
	retrieved from STN Database accession no. 110:74500 XP002275502					
	RN 118365-08-5 & BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN (1988), 61(5), 1827-9,					
K	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US;	1,2,8				
	GONZALEZ, A. ET AL: "Metal complexes in organic synthesis. Preparation of.alpha(1-adamantyl)betadicarbonyl compounds and					
	4-(1-adamantyl)-3,5-disubstituted pyrazoles and -isoxazoles" retrieved from STN					
	Database accession no. 106:213817 XP002275503 RN 108221-13-2 & TETRAHEDRON (1986), 42(15), 4253-7,					
	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS,	1,2,8				
	OHIO, US; BOBOWSKI, GEORGE ET AL: "4-Substituted-3-alkyl-3,4-dihydro-2H-1,3-benzoxazin-2-ones. IV. Keto-enol					
	tautomerism of.betaketo ester derivatives. Reaction of.betadicarbonyl compounds with diamines" retrieved from STN					
	Database accession no. 93:168205 XP002275504 RN 74834-76-4					
	& JOURNAL OF HETEROCYCLIC CHEMISTRY (1980), 17(3), 519-28,					
	WO 00 31063 A (CRICH JOYCE Z;ANANTANARAYAN ASHOK; CLARE MICHAEL (US); SEARLE & C) 2 June 2000 (2000-06-02) aostract; claims 1,3,135,139,140	1-21, 23-25				
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PCT/GB 03/05501

		PC1/GB 03/	
	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
A	BANNIER A ET AL: "DETERMINATION OF A NEW ANTI-INFLAMMATORY AGENT, 1-ISOBUTYL-3,4-DIPHENYLPYRAZOLE-5-ACETIC ACID, BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY" JOURNAL OF PHYSIOLOGY, XX, XX, vol. 227, no. 1, 8 January 1982 (1982-01-08), pages 213-218, XP009008354 ISSN: 0022-3751 the whole document		1-21, 23-25
Α,Ρ	WO 03 055860 A (CANCER RES TECHNOLOGY LTD; DRYSDALE MARTIN JAMES (GB); PEARL LAURE) 10 July 2003 (2003-07-10) the whole document		1-21, 23-25



# PCT/GB 03/05501

### INTERNATIONAL SEARCH REPORT

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 22, 26 and 27 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. X Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  see FURTHER INFORMATION sheet PCT/ISA/210
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international Search Report is restricted to the invention first mentioned in the claims, it is covered by claims Nos.:
Remark on Protest  The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.



Continuation of Box I.2

The presently claimed subject-matter relates to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds as illustrated by the examples wheren Ar represents always a (optionally substituted) phenyl group directly linked to the pyrazole core.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.



# INTERNATIONAL SEARCH REPORT

information on patent family members

Int: one Application No PCT/GB 03/05501

				P	CT/GB	03/05501
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 03062206	A	31-07-2003	WO	03062206	A2	31-07-2003
WO 0179187	Α	25-10-2001	ΑU	9337201	A	30-10-2001
			CA	2406271	A1	25-10-2001
			EP	1324993		09-07-2003
			WO	0179187	A2	25-10-2001
			US	2002010169	A1	24-01-2002
WO 9852940	A	26-11-1998	AU	754830		28-11-2002
			ΑU	7588398		11-12-1998
			BG	103964	Α	31-08-2000
			BR	9809147	A	01-08-2000
			CA	2291115	A1	26-11-1998
			CN	1264377		23-08-2000
			EA	3925	B1	30-10-2003
			EE	9900527	A	15-06-2000
			EP	1000055		17-05-2000
			HU	0001880		28-03-2001
			ID	22982		23-12-1999
			JP	2002508754		19-03-2002
			NO NZ	995695		21-01-2000
			NZ	501112		25-10-2002
			PL	337020		31-07-2000
			SK	157899		14-08-2000
	•		TR	200000235		22-05-2000
		•	WO · US	9852940		26-11-1998
•			US	6617324		09-09-2003
			US US	6514977		04-02-2003
			ZA	6423713 9804358		23-07-2002
						24-05-1999
WO 9701551	Α	16-01-1997	MO	9701551		16-01-1997
			JP 	11508267	1 	21-07-1999
WO 9603385	Α	08-02-1996	US	5486534		23-01-1996
			ΑT	210648		15-12-2001
			ΑU	3126795		22-02-1996
			CA	2195123		08-02-1996
			DE		D1	24-01-2002
			DE		T2	18-07-2002
			DK Ep	772597		08-04-2002
			EP	1127878 / 0772597 /		29-08-2001
			ES.	2169760	L3 4T	14-05-1997
			JP	3490716 i		16-07-2002
			JP	10503201		26-01-2004
			PT	772597		24-03-1998
			WO	9603385 A		31-05-2002 08-02-1996
			US	5580985 A		03-12-1996
			US	5756530 A		26-05-1998
			US	6028072 A		22-02-2000
		00 10 10-5				
ID 62050000		20-10-1988	JP	63253068 1	1	20-10-1988
JP 63253068	A 					<del></del>
	A	02-06-2000	US	6514977 E		04-02-2003
		02-06-2000	AU	2145400 A	1	13-06-2000
JP 63253068 WO 0031063		02-06-2000			<b>\</b>	

Form PCT/ISA/210 (patent family ennex) (January 2004)





Information on patent family members

Int onal Application No PCT/GB 03/05501

<del></del>				
Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 0031063 A		CA	2351725 A1	02-06-2000
		CN	1342157 T	27-03-2002
		CZ	20011714 A3	12-12-2001
		EE	200100268 A	16-12-2002
		EP	1144403 A1	17-10-2001
		HU	0200130 A2	29-06-2002
		ID	29993 A	25-10-2001
		JP	2002530397 T	17-09-2002
		NO	20012456 A	19-07-2001
		ΝZ	512344 A	28-11-2003
		PL	353853 A1	01-12-2003
		SK	6862001 A3	04-06-2002
		TR	200102001 T2	21-12-2001
		WO	0031063 A1	02-06-2000
		US	6617324 B1	09-09-2003
		US	6525059 B1	25-02-2003
		UŞ	6423713 B1	23-07-2002
		ZA	200103882 A	14-10-2002
WO 03055860 A	10-07-2003	WO	03055860 A1	10-07-2003